UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/515,674	02/29/2000	Sreenivas Gollapudi	242/199	9849

23639 7590 11/18/2003

BINGHAM, MCCUTCHEN LLP
THREE EMBARCADERO, SUITE 1800
SAN FRANCISCO, CA 94111-4067

EXAMINER	
NARAYANASWAMY, SINDYA	
ART UNIT	**PAPER NUMBER**
2174	10

DATE MAILED: 11/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/515,674	Applicant(s) GOLLAPUDI ET AL.	
	Examiner Sindya Narayanaswamy	Art Unit 2174	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 September 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 February 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. Claims 1-23 are presented for examination.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action: (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time of the invention the invention was made to a person having ordinary skill in the art at the time of the invention to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mehrotra, US-5,822,790 in view of Janigian US-5,303149.

4. As per claim 1, Mehrotra teaches the invention substantially as claimed including a process for increasing the efficiency of data transfers between a client and a server comprising: identifying data requested by a client (col 1, lines 22-32); identifying prefetch data, said prefetch data comprising information not immediately requested by said client (col. 1, lines 46-55).

5. Mehrotra does not teach the determining of the existence of data redundancy in the prefetch data or the transmitting of a reduced set of prefetch data, said reduced set comprising a smaller memory footprint than said prefetch data. However, Janigian teaches the determining the existence of data redundancy in the prefetch data (col. 13, lines 19-44) and the transmitting of a reduced set of data (col. 2, lines 37-46). It would have been obvious to one of ordinary skill in the art at the time of the invention at the time of the invention the invention was made to combine the teachings of Janigian with the teachings of Mehrotra because Janigian's methodology of determining the existence of redundant data and transmitting reduced sets of data eliminates the sending of data repetitively. One with ordinary skill in the art at the time of the invention would have been motivated to do so because it reduces the amount of unnecessary work done by the system.

6. As per claim 2, Janigian teaches the process of determining the existence of data redundancy performed by calculating row differences between successive rows in the prefetch data (Fig. 7, col. 6, lines 22-34, col. 7, lines 61-65 – col. 8, lines 1-4).

7. As per claim 3, Janigian teaches the process of claim 2 in which row differences between successive rows in the prefetch data is performed by identifying identical column values for said successive rows (Fig. 7, col. 6, lines 22-34, col. 7, lines 61-65 – col. 8, lines 1-4).

8. As per claim 4, Mehrotra and Janigian do not teach the process of claim 2 in which determining the existence of data redundancies in prefetch data is performed by consulting a bitmap corresponding to changes between a first row and a second row of a database table. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to compare rows by consulting a bitmap because it is a simple means of comparison. One skilled in the art would have been motivated to do so because it allows for a piece by piece comparison of rows.

9. As per claim 5, Mehrotra and Janigian do not teach the process in which determining the existence of data redundancy in prefetch data is performed by creating a bitmap corresponding to changes between a first row and a second row of a database table, the bitmap containing bit values for differences in column values between the first and the second rows. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to determine the existence of data redundancy in prefetch data by creating a bitmap corresponding to changes between a first row and a second row of a database table because it is a simple means of comparison. One skilled in the art would have been motivated to do so because it allows for a piece by piece comparison of rows.

10. As per claim 6, Mehrotra and Janigian do not teach the process in determining the existence of data redundancy in said prefetch data is performed by creating a bitmap corresponding to changes between a first row and a second row of a database table, the bitmap containing bit values for differences in column values between said first

and said second rows. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to determine the existence of data redundancies in prefetch data by creating a bitmap corresponding to changes between a first row and a second row of a database table, said bitmap containing bit values for differences in column values between said first and said second rows because it is a simple means. One skilled in the art would have been motivated to do so because it allows for a piece by piece comparison of rows.

11. As per claim 7, Mehrotra and Janigian do not teach the process in which the first and second rows are not consecutive rows of prefetch data. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the process in which the first and second rows are consecutive rows of prefetch data. One skilled in the art would have been motivated to do so because it allows for a piece by piece comparison of rows.

12. As per claim 8, Mehrotra and Janigian does not teach the process in which the bitmap is a multidimensional bitmap. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the bitmap into a multi dimensional map because it would provide a simpler means of row comparison. One skilled in the art would have been motivated to do so because it allows for a reduction in complexity of the process.

13. As per claim 9, Janigian does teach the step of determining the existence of data redundancy in prefetch data by identifying multiple copies of an item of information in prefetch data; and the act of transmitting a reduced set of prefetch data comprises sending a single copy of an item that has not changed between a first row and a second row (col. 13, lines 22-46, col. 1, lines 60-68).

14. As per claim 10, Mehrotra and Janigian do not teach the process comprising: maintaining pointers to the client corresponding to prefetch data and pointing multiple pointers to a single copy in a client cache. However, it would have been obvious to one skilled in the art at the time of the invention to maintain pointers at the client corresponding to prefetch data and pointing multiple pointers to a single copy in a client cache because the use of multiple pointers towards a single copy in memory is an old and known concept. One skilled in the art would have been motivated to do so because the use of pointers eliminates the need of multiple copies of an identical item in the cache.

15. As per claims 11 and 23, they are the computer program product and general-purpose computer system claims of claim 1, and they are rejected for the same reasons as claim 1.

16. As per claims 12 – 20, they are the computer program product claims of claims 1-11 and they are rejected for the same reasons as claims 1-10.

17. As per claim 21, Mehrotra teaches the computer program product of claim 11 in which the prefetch data comprises of information in a database table (cache) (col 1, lines 22-32).

18. As per claim 22, Mehrotra and Janigian do not teach the computer program product where the prefetch data comprises information associated with a web page. However, it is commonly known in the art the web pages utilize a cache system so it would have been obvious to one skilled in the art at the time to use the cache data storage and retrieval methodology in association with web pages.

Response To Argument

1. In the remarks, applicant has argued in substance that:

   (1) Janigian fails to disclose "determining the existence of data redundancies in the prefetch data," as recited in claims 1 and 11.

   (2) Janigian does not disclose "transmitting a reduced set of prefetch data, the reduced set comprising a smaller memory footprint than the prefetch data."

   (3) Neither Mehrotra and Janigian, either alone or in combination, disclose or suggest "determining the existence of data redundancies in the prefetch data and "transmitting a reduced set of prefetch data, the reduced set comprising a smaller memory footprint than the prefetch data."

2. Examiner respectfully disagrees with Applicant's arguments and resubmits that

As to point (1), Janigian discloses "determining the existence of data redundancies in the prefetch data," in col. 6, lines 17-34, where the list illustrates that all redundancies determined by the record comparison.

As to point (2), Janigian does disclose "transmitting a reduced set of prefetch data, the reduced set comprising a smaller memory footprint than the prefetch data" in col. 2, lines 37-46. Janigian's method of determining duplicate data, results in a method to "avoid sending duplicates...." (col. 2, lines 37-40).

As to point (3), Mehrotra and Janigian do teach and suggest, for the reasons described in points (1) and (2), "determining the existence of data redundancies in the prefetch data and "transmitting a reduced set of prefetch data, the reduced set comprising a smaller memory footprint than the prefetch data."

Conclusion

1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sindya Narayanaswamy whose telephone number is (703) 305-8473. The examiner can normally be reached on 8 am to 5 pm, first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kristine Kincaid can be reached on (703) 308-0640. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-9000.

Kristine Kincaid
KRISTINE KINCAID
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

***

November 10, 2003

Sindya Narayanaswamy